

What is claimed is:

CLAIMS

1. A method of coordinating events in a microprocessor-based electronic device having a sleep mode, the method comprising the steps of:
  - determining a list of event times to perform associated operating system events that require exiting sleep mode and entering a wake-up period to perform the event tasks;
  - establishing a timing of fixed events wherein the electronic device exits the sleep mode and enters a wake-up period to perform the fixed events; and
  - delaying the event time for at least one of the operating system events to align with a fixed event such that the electronic device utilizes one wake-up period to perform both of the at least one of the operating system event and the fixed event.

2. The method of claim 1, further comprising a step of defining accuracy values for each associated operating system event time, where the accuracy values define an acceptable delay to apply in the delaying step.

3. The method of claim 2, wherein the delaying step includes the substeps of:  
determining if any of the event times are set to occur before the next fixed event;  
adding, for those event times of the previous step, the event times plus their associated accuracy values to provide delayed event times;  
calculating which of the operating system delayed event times occur earliest in time; and  
setting a wake-up time for the operating system at the delayed event time of the previous step.

4. The method of claim 3, further comprising the steps of:  
placing the electronic device in sleep mode;  
waking up the electronic device at the delayed event time set in the setting step;  
running an associated task at the delayed event time; and  
at the completion of the running step, performing the substeps of:  
checking to see if any of the events have expired and performing those expired events;  
scheduling the next event to occur; and  
shutting down components of the electronic device.

5. The method of claim 4, wherein the checking substep includes checking to see if a powering down time after the task overlaps a powering up time for the next event, upon which the components of the electronic device are kept powered up until the next event.

6. The method of claim 1, further comprising a step of providing an operating system timer to time the operating system event times.

7. The method of claim 1, wherein in the establishing step the fixed events are layer1 communication events, and the electronic device is a radiotelephone.

2007-07-16 14:00:00

8. A method of coordinating events in a microprocessor-based communication device having a sleep mode, the method comprising the steps of:
- providing an operating system timer to time operating system event times;
  - determining a list of event times to perform associated operating system events that require exiting sleep mode and entering a wake-up period to perform the event tasks;
  - defining accuracy values for each associated operating system event times, where the accuracy values define an acceptable delay to apply in the delaying step;
  - establishing a timing of communication events wherein the communication device exits the sleep mode and enters a wake-up period to perform the communication events; and
  - delaying the event time for at least one of the operating system events to align with a communication event such that the communication device utilizes one wake-up period to perform both of the at least one of the operating system event and the communication event.

9. The method of claim 8, wherein the delaying step includes the substeps of:  
determining if any of the event times are set to occur before the next  
communication event;  
adding, for those event times of the previous step, the event times plus their  
associated accuracy values to provide delayed event times;  
calculating which of the operating system delayed event times occur earliest in  
time; and  
setting a wake-up period for the operating system at the delayed event time of  
the previous step.

10. The method of claim 9, further comprising the steps of:  
placing the communication device in sleep mode;  
waking up the communication device at the delayed event time set in the setting  
step;  
running an associated task at the delayed event time; and  
at the completion of the running step, performing the substeps of:  
checking to see if any of the events have expired and performing those  
expired events;  
scheduling the next event to occur; and  
shutting down components of the communication device.

11. The method of claim 10, wherein the checking substep includes checking to see if  
a powering down time after the task overlaps a powering up time for the next event,  
upon which the components of the communication device are kept powered up until the  
next event.

12. The method of claim 8, wherein in the establishing step the communication  
events are layer1 events in a GSM operating system.

13. A method of coordinating events in a microprocessor-based communication device having a sleep mode, the method comprising the steps of:

- providing an operating system timer to time operating system event times;
- determining a list of event times to perform associated operating system events that require exiting sleep mode and entering a wake-up period to perform the event tasks;
- defining accuracy values for each associated operating system event time, where the accuracy values define an acceptable delay to apply in the delaying step;
- establishing a timing of communication events wherein the communication device exits the sleep mode and enters a wake-up period to perform the communication events; and
- determining if any of the event times are set to occur before the next communication event;
- adding, for those event times of the previous step, the event times plus their associated accuracy values to provide delayed event times;
- calculating which of the operating system delayed event times occur earliest in time; and
- setting a wake-up period for the operating system at the delayed event time of the previous step such that the communication device utilizes one wake-up period to perform both of the at least one of the operating system event and the communication event.

14. The method of claim 13, further comprising the steps of:

placing the communication device in sleep mode;

waking up the communication device at the delayed event time set in the setting  
step

running an associated task at the delayed event time; and

at the completion of the running step, performing the substeps of:

checking to see if any of the events have expired and performing those  
expired events;

scheduling the next event to occur; and

shutting down components of the communication device.

15. The method of claim 14, wherein the checking substep includes checking to see if  
a powering down time after the task overlaps a powering up time for the next event,  
upon which the components of the communication device are kept powered up until the  
next event.

16. The method of claim 13, wherein in the establishing step the communication  
events are layer1 events in a GSM operating system.